WHAT IS CLAIMED IS:

1. A DC bias control circuit for controlling a DC bias added to an AC component of an output signal delivered from an amplifier to a data regeneration circuit that regenerates data from the AC component of the output signal from the amplifier based on a predetermined threshold voltage, wherein said DC bias control circuit controls the DC bias based on a HIGH level, a DC level, and a LOW level of the signal output from the amplifier.

2. The DC bias control circuit according to Claim 1, comprising: a HIGH level detector for detecting a HIGH level of the output signal from the amplifier; a DC level detector for detecting a DC level of the output signal from the amplifier; a LOW level detector for detecting a LOW level of the output signal from the amplifier; a first subtracting circuit for determining a first subtraction result by subtracting the DC level from the HIGH level; a second subtracting circuit for determining a second subtraction result by subtracting the LOW level from the DC level; a third subtracting circuit for determining a third subtraction result by subtracting the second subtraction result from the first subtraction result; and a correction circuit for correcting the DC bias by weighting the third subtraction result according to characteristics of the amplifier, and by determining a difference between a level of a crossing point of an eye diagram of the output signal from the amplifier, at which rising and falling edges of pulses included in the output signal from the amplifier cross each other, and the DC level.

3. An optical receiver comprising:

a light receiving element for converting an incoming optical signal into an electrical current signal;

a preamplifier for converting the electrical current signal which flows through the light receiving element into a voltage signal; and

a data regeneration and clock recovery circuit for applying a DC bias to an AC component of the voltage signal from the preamplifier, and for reshaping and regenerating data and recovering a clock from the AC component based on a predetermined threshold voltage, wherein said optical receiver controls the DC bias based on a HIGH level, a DC level, and a LOW level of the output signal from the preamplifier.

4. The optical receiver according to Claim 3, comprising: a HIGH level detector for detecting a HIGH level of the output signal from the preamplifier; a DC level detector for detecting a DC level of the output signal from the preamplifier; a LOW level detector for detecting a LOW level of the output signal from the preamplifier; a first subtracting circuit for determining a first subtraction result by subtracting the DC level from the HIGH level; a second subtracting circuit for determining a second subtraction result by subtracting the LOW level from the DC level; a third subtracting circuit for determining a third subtraction result by subtracting the second subtraction result from the first subtraction result; and a correction circuit for correcting the DC bias by weighting the third subtraction result according to characteristics of the light receiving element and characteristics of the amplifier, and by determining a difference between a level of a crossing

point of an eye diagram of the output signal from the preamplifier, at which rising and falling edges of pulses included in the output signal from the preamplifier cross each other, and the DC level.

5. A method of controlling a DC bias added to an AC component of an output signal delivered from an amplifier to a data regeneration circuit that regenerates data from the AC component of the output signal from the amplifier based on a predetermined threshold voltage, the method comprising the steps of:

detecting a HIGH level of the output signal from the amplifier;

detecting a DC level of the output signal from the amplifier;

detecting a LOW level of the output signal from the amplifier;

determining a first subtraction result by subtracting the DC level from the HIGH level;

determining a second subtraction result by subtracting the LOW level from the DC level;

determining a third subtraction result by subtracting the second subtraction result from the first subtraction result; and

correcting the DC bias by weighting the third subtraction result according to characteristics of the amplifier, and by determining a difference between a level of a crossing point of an eye diagram of the output signal from the amplifier, at which rising and falling edges of pulses included in the output signal from the amplifier cross each other, and the DC level.